

FOUNDED
1847

THE MECHANIC

JANUARY, 1904

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A JOURNAL OF INTEREST
TO MACHINE WOOD WORKERS

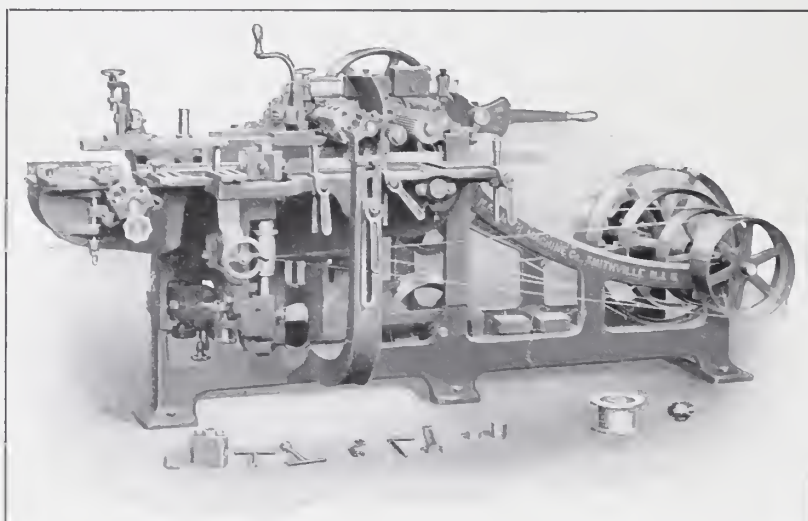
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To work 7 inches wide by 14 inches deep.

Built on the same general plan as the

New 6-inch, which has become so popular.

(SEE ILLUSTRATION, PAGES 11 to 14)



A New 8-inch Moulder being completed and larger sizes (9 in., 10 in. and 12 in.) in course of preparation. Further particulars on application. Our 600 page 20th Century Catalogue will be sent to intending purchasers of Wood Working Machines.

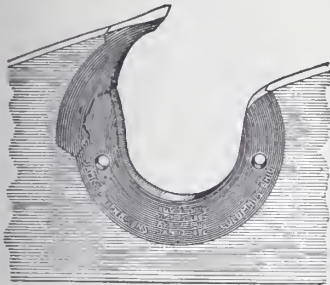
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It does not drip as oil does, therefore saves sawdust and
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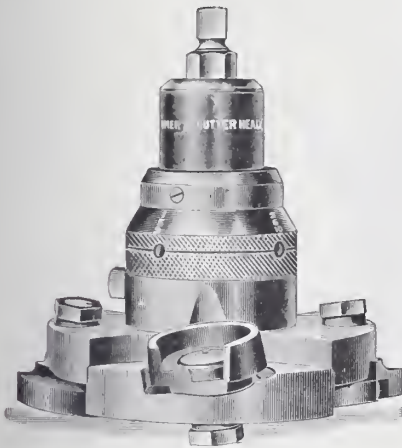
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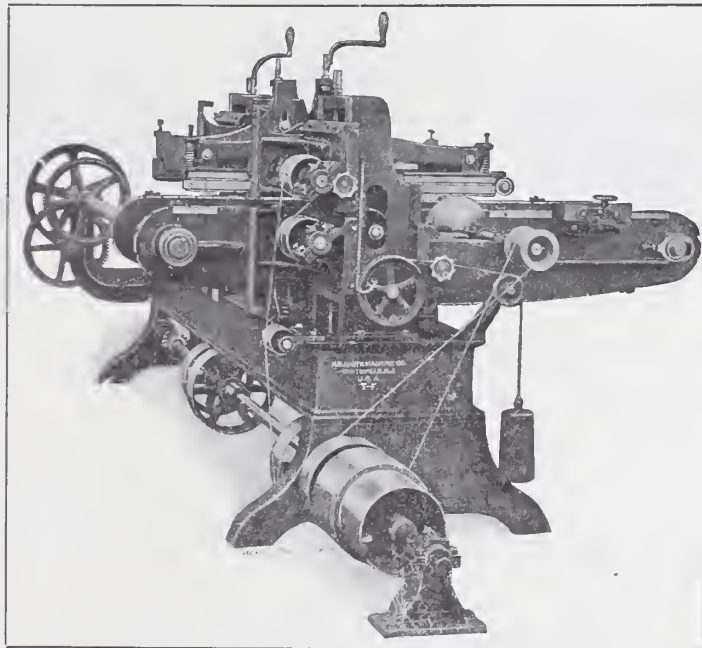
Shimer Cutter Head

If the story ceased here we would not consider it worth mentioning, but the work is absolutely true to pattern, no ripping and tearing, but a straight, clean cut, from start to finish. If you haven't heard of the latest improvements in these heads you'd better get our catalog, it's free.

S. J. SHIMER & SON
MILTON, PENNA.

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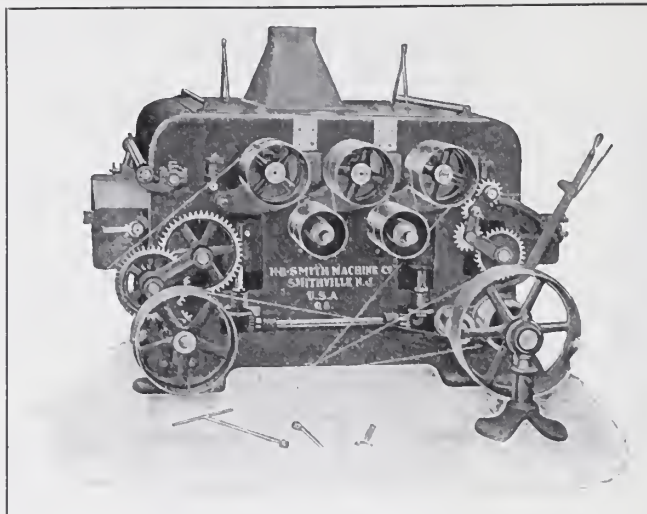
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AND SINGLE-END WITH HAND FEED



(Double-End Furniture Tenoner)

Booklet on Tenoning Machinery sent on application. Also a copy of our 20th Century Catalogue to intending purchasers. Address

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New Triple Drum Sander with Endless-Bed Feed referred to below.

Special Circulars sent on application, address
H. B. SMITH MACHINE COMPANY, Smithville, N. J., U. S. A.

GOLD MEDALS, HIGHEST AWARDS AT PAN-AMERICAN AND CHARLESTON EXPOSITIONS.

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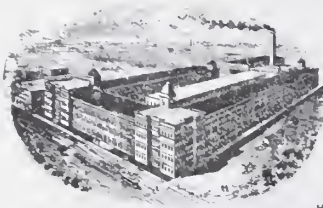
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BRANCHES
NEW YORK CHICAGO
BOSTON PHILA.
WASHINGTON



Grand Rapids, Mich. Nov. 20, 1903.

H. B. Smith Machine Co.,
Chicago, Ill.

Gentlemen:-

Replying to yours of Nov. 18th will say that the triple drum sander which we purchased of you has not its equal for the sanding of short stock, its capacity being about six times that of the roll type.

Yours truly,

I. S. R.

The Fred Macey Co. Ltd.,

Per *J. J. Rundo*
Superintendent.

THE MECHANIC

A JOURNAL OF INTEREST TO MACHINE WOOD-WORKERS

VOL. XXVI. NO. 1

SMITHVILLE, N. J., JANUARY, 1904

WHOLE NO. 700

THE MECHANIC

PUBLISHED MONTHLY BY

H. B. SMITH MACHINE COMPANY

SUBSCRIPTIONS, ONE DOLLAR PER YEAR

We want and will pay for original matter of interest to wood-workers.

Important.—Readers are advised to preserve their numbers of THE MECHANIC. The articles to appear during the year are continued from month to month, and will prove valuable for reference. An index of the contents for the entire year will be published in the December number.

THE MECHANIC is issued on the first of each month. All matter must reach this office by the 20th of the month preceding publication.

If THE MECHANIC does not reach you regularly notify us.



1904

We are not too late to wish for our readers a Prosperous New Year, and we believe we are not optimistic when we say that the prospects for business are very good, notwithstanding it is what is called a "Presidential Year." The year 1903, which has just closed, started out with great prospects and the volume of trade for several months was unparalleled in this country, but owing to strikes of workmen among several industries, and also to speculation and fluctuations of industrial stocks, the latter part of the year suffered some revulsion, and for a few weeks we were reminded of several years ago, but the cessation was only temporary and business has the appearance of being fully normal; hence it is predicted that the *New Year* will have much in store for us all.



THE MECHANIC, owing to pressure in business and other causes, sometimes misses a number or month, but subscribers and advertisers will get the same number of issues, only they will be longer drawn out.



This issue of THE MECHANIC contains illustrations and descriptions of a new Seven-Inch

Moulder, which is built on modern lines, and parties interested in this class of machine should examine the cuts and read the description (see pages 11, 12 and 13).



Branch offices of the H. B. Smith Machine Co. for the ensuing year, will be represented as follows: W. D. Martin, manager, branch at 123 Liberty street, New York; Thos. R. Martin, manager, of branch at 65 S. Canal street, Chicago; and Elroy N. Heath, manager, 12 Pearl street, Boston.



Salesmen of the H. B. Smith Machine Co. for the ensuing year have been selected as follows: A. R. Grant, resident address at North Tonawanda, N. Y., for the State of New York; S. F. Wise, resident address at 2149 North Eighth street, Philadelphia, for Eastern Pennsylvania, Delaware and Maryland; S. F. Cates, resident address, Atlanta, Ga., for Georgia, Alabama, Florida and South Carolina; H. J. Cordesman, Jr., 243 Foote avenue, Bellevue, Ky., for Ohio, Western Pennsylvania and West Virginia. Other salesmen will be announced later. We are always in touch with our salesmen and can reach them any day by wire, therefore if a conference is wanted, wire the home office (Smithville, N. J.) and arrangements will be made promptly.



Dealers and agencies, foreign and domestic, The H. B. Smith Machine Co. are represented in the principal commercial cities of all countries by dealers and agents who have been identified with the sale of Smith Machines for many years. A list of such dealers and agencies will be found on page 4.



New Wood Working Machines: The H. B. Smith Machine Co. are constantly bringing out *new machines* and improving the old ones, hence intending purchasers of any kind of wood converting machines should write them and learn of the latest and best machines for the purposes wanted. They send a 600-page 20th-century catalogue to parties meaning business.

Lessons in Design—for Wood-working Machine Men

By Fred T. Hodgson

LESSON V.

Continuing our study of mouldings it may not be amiss to show at this point how both Greek and Roman examples were used in Colonial times for decorative purposes. A good example of a classic combination in what may be termed Palladian style, and, which may be said

it is well worth considering when designing outside or inside finishing in wood. The base of the pilaster is exceedingly well proportioned.

Another combination which is sometimes met with is shown at Fig. 23. Here it is shown as a section of door or window trim, but may be used on panelling or other similar work. It is a combination of Greek and Roman work, and

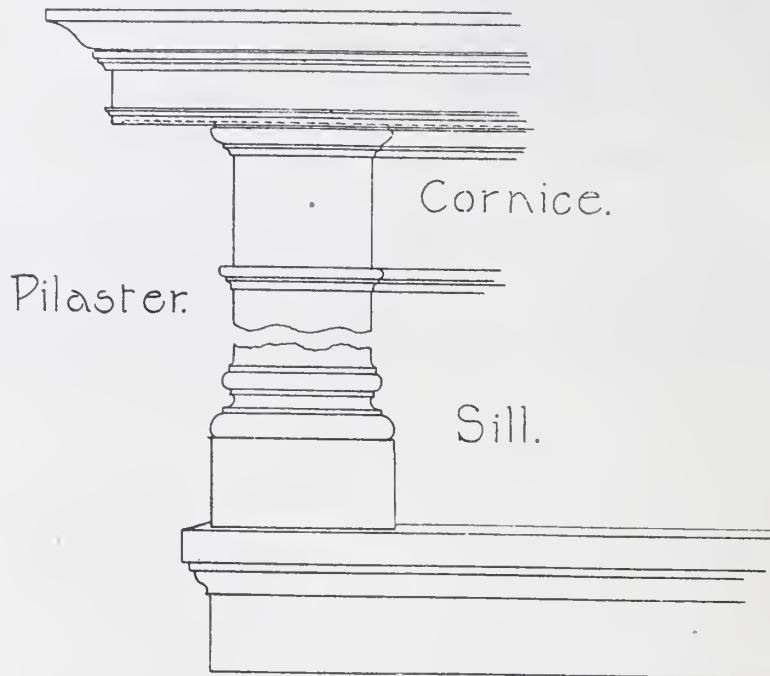


FIG. 23.

to be "Colonial," as we understand that style, is shown at Fig. 22, which exhibits a design for cornice, pilaster and sill, showing moulded cap and base of pilaster in Roman and cornice in Grecian Doric styles. A combination of this kind always presents a chaste and pleasing appearance, and when it devolves upon the workman to design work for a Colonial building, he should always keep this example in mind, as

while it does not possess any special beauty, it offers suggestions for many varieties of work.

The example shown at Fig 24 is intended for either single or double base board, or for the base of a column or pilaster, or even for a newel post. The clever workman will find many places where this style of moulding may be used with profit. In early Colonial work this style of moulding was often used on the jambs

of front entrance doors, and a number of existing examples may still be found in Boston, Newark and Philadelphia. It makes a very refined "ease-off" for a base board.

Another group of Colonial mouldings suitable for a mantel or other similar work is

two or more centers, and is from a Greek example. This difference between Greek and Roman work has been explained before, so need not be referred to again.

The proper type of a foot-moulding, as having its lowest portion advanced beyond the

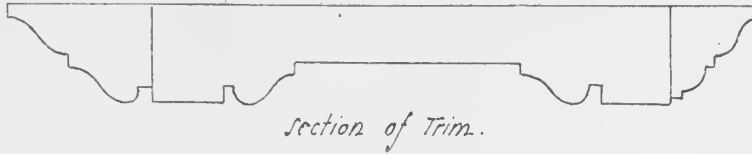


FIG. 23.

shown at Fig. 25, which may be considered as examples of the best period of Colonial architecture. The crown moulding, or cap of the mantel shelf is gracefully curved and is nearly flat on its outline, and is pleasing in the extreme. The other mouldings, especially the

upper, is the prone ogee shown at B Fig. 26. This simple curve is characteristic still of the base mouldings in which its compound line seems resolved into a prone cavetto and a torus; and still more positively into a scotia and torus.

The duplication of this form gives us the compound profile which reappears so constantly, with whatever variations of proportion, in the Ionic base.

Says an authority, "It was not the manner of the Mediaevals to keep within the same limit of chastened reserve as the Greeks. The models which came to them from Classic times

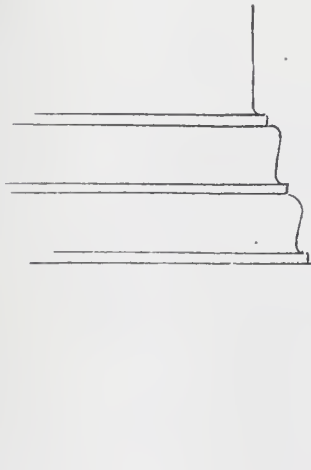


FIG. 24.

neck mouldings, are excellent examples of their kind, and may be made use of in many situations. The general design itself is very good and the workman will not be slow to adapt it to many purposes. The fluting on the columns may offer some suggestions that may prove useful in many places. I gave in Lesson Four a number of methods for describing the curves of a number of classic mouldings, and these methods, or some of them at least, can be used for finding the outlines or curves of the mouldings shown in these examples.

The group of mouldings shown at Fig. 26 may be considered all of classic form and the proper thing to use in Colonial work. The base mouldings shown at A is from a Roman example, the parts being curves struck from one centre, while those shown at B are struck from

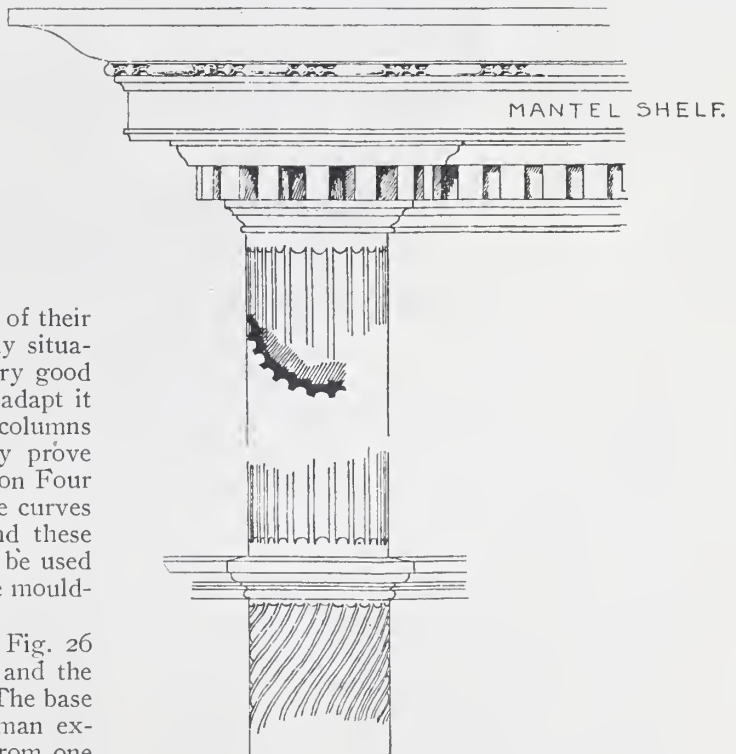


FIG. 25.

received no more reverent usage than the inflexions of classic nouns and verbs. Both were broken up or obliterated as convenience or necessity dictated. Language passed through a period of marvellous jargon, and architecture was deprived of all its feeling and its charm till arts and manners reasserted themselves and reintroduced refinement of expression. Delicacy of outline in mouldings became again striven for, and to a very considerable extent achieved and also unity and dignity of proportions. Neither was a certain, however unconscious, analogy to humanity wanting in this latter case. The comparison of the changes which later architects introduced in the proportional distribution of Notre Dame, at Paris, and Winchester Cathedral, England, is full of interest. In both cases the distribution of an elevation into three nearly equal parts was superseded by giving an importance to one part

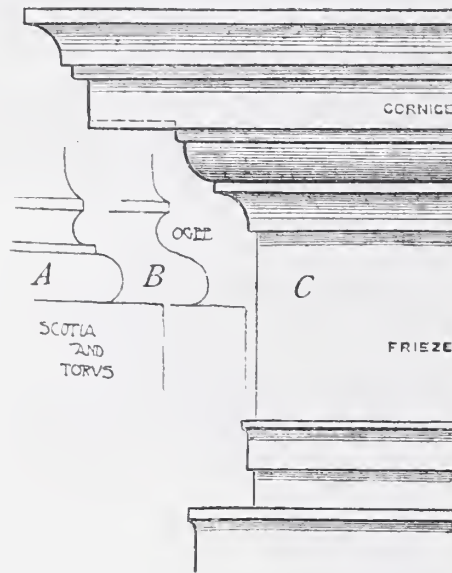


FIG. 26.

which decidedly subordinated the rest. Let us indulge ourselves by tracing one more analogy. Every draughtsman knows that lines drawn across a regular face on the upper and lower levels of the ear and nose divided it very accurately into three equal parts. And yet is this division so far from being obtrusive as to be latent. The dignity of the composition, so to speak, results from the effect of a conjunction of proportionate unequals of the face above the line of the brow and below it, as 1:2. When the face is seen in profile it is in the line of forehead and nose which again compares with the space below, as 3:1. The continuousness of this line was insisted on by the Greeks

in order to secure the beauty dependent on such proportion."—(To be continued.)

World's Fair Article—Continued from November

No one has ever seen such a line of prime movers, yet this is but one of the three lines which will be installed in the western half of Machinery Hall. The line to the north will consist of steam engines, largely of European build and drawn from the greatest works in England, France, Sweden and Germany. The line to the south will, for the main part, be made up of gas and oil engines, the products of the great machine shops of the world. All types, speeds and sizes will be shown, from the little one-half horse-power gas engine for domestic use to the great 8,000 horse-power steam turbine for the operation of lighting plants and trolley railroads.

The Belgian gas engine is also a very wonderful achievement. No one has ever seen a gas engine of anything like 3,000 horse-power. The same builders exhibited at the Paris Exposition of 1900 a gas engine of 600 horse-power, and this excited more interest and comment than any other individual item in that exposition. Here we have one with five times the capacity of the Paris engine. The unit to be installed in this Exposition covers a floor space about 85 feet long and 45 feet wide. Its fly-wheel weighs thirty-four tons, has a diameter of 28 feet, and its rim travels at the rate of nearly a mile and three-quarters a minute. A medium-sized horse can be driven through its cylinders, and its two pistons each travel ten feet at every complete stroke, and each makes one hundred strokes per minute. The shipping weight of this engine is approximately three hundred tons. About thirty tons of coal per day will be consumed in the generation of the gas to operate it.

At the end of the northerly line of engines and in the northwest corner of Machinery Hall will be found a French reciprocating steam engine of 1,500 horse-power, with its main shaft making 330 revolutions per minute, a wonderful speed for so heavy and powerful an engine. Another peculiarity of this installation will appeal to engineers. The French engine is directly coupled to an electric generator built in Paris which operates in parallel on alternating current arc lighting service with a generator built in Belfort, France, and directly coupled to a tandem compound steam engine (from Mulhouse, Germany) of 1,000 horse-power and 94 revolutions per minute.

(To be continued.)

A Modern Wood-Working Machine

A Few Points to Assist in Properly Setting Up and Operating It

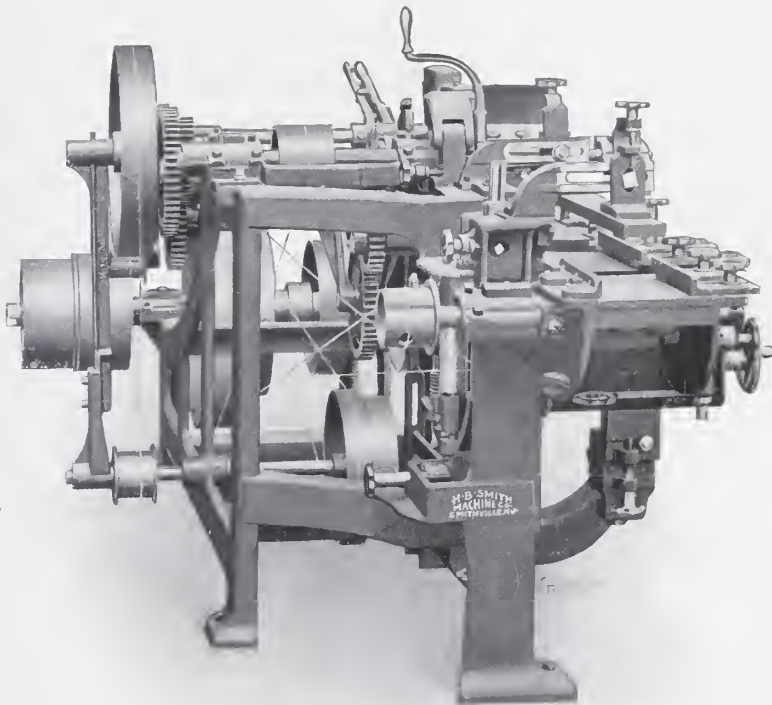
Seven-inch Moulding Machine

To Work 4 Sides

The half-tones represent our latest Seven-inch Moulder, a strictly up-to-date Twentieth Century Machine, which we claim to be the best of its size on the market. As compared with others, it is more convenient to set up and

make it stronger and stiffer, and to allow as convenient access to the inside vertical head as to any other portion of the machine. This latter feature is a valuable one, that will be appreciated by all operators, and it is accomplished in a very simple and substantial manner.

Arbors and Bearings.—The arbors for the



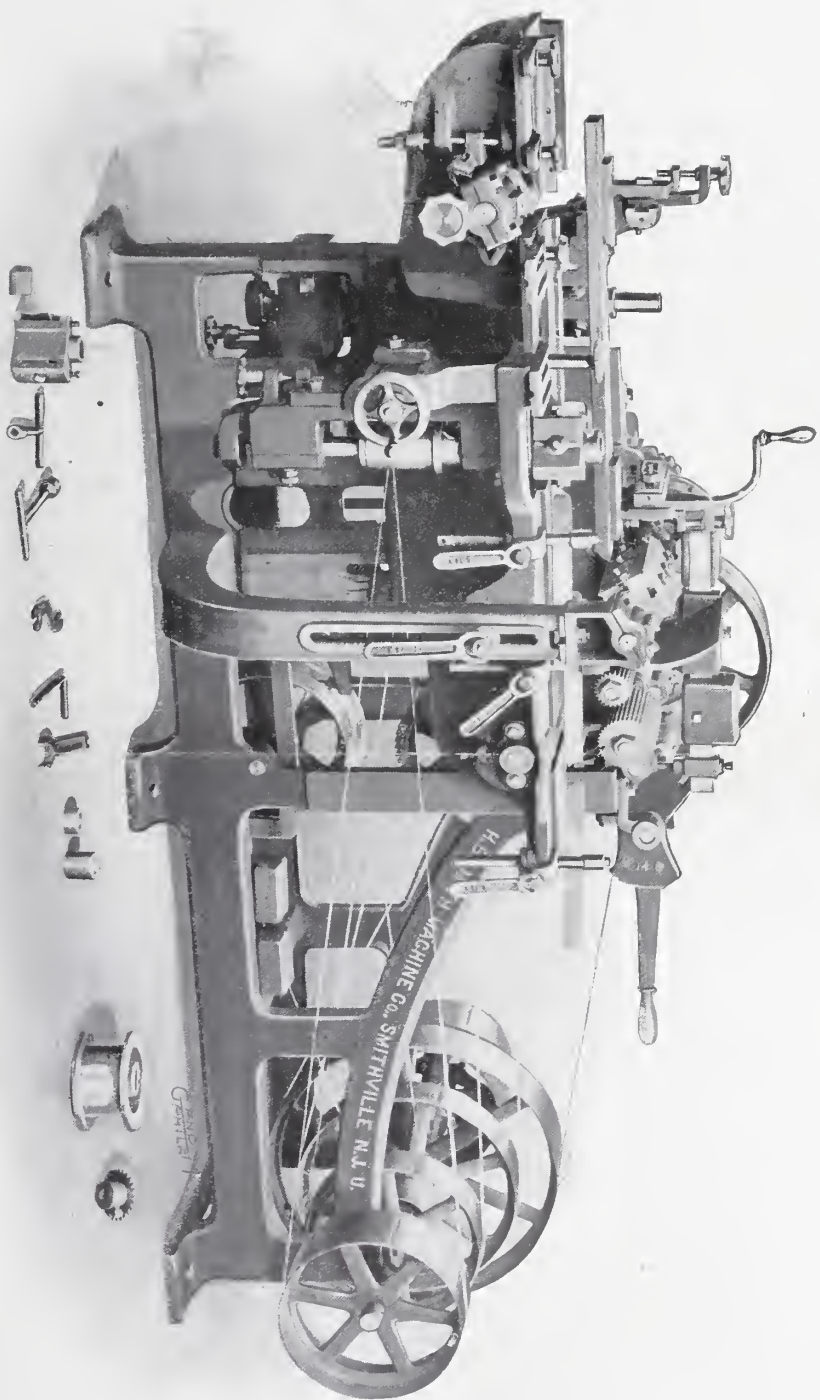
End View, Showing the Gearing and Accessibility of Inside Head

adjust; is stronger driven and has a very powerful feed. The shaft and arbors are larger, thus preventing liability of their springing or otherwise getting out of true.

The Frame.—The frame is cast solid, and is wide and long, which gives ample room for wide and long belts. It is of such design as to

heads are all $1\frac{1}{2}$ -inches diameter in the bearings, and $1\frac{1}{4}$ -inches where the heads are attached. The *bearings* are all of proper length, and the top and under heads have longitudinal adjustment, while the side heads have adjustment in *all* directions, including *angular*. While

(Continued on page 14.)



A NEW SEVEN-INCH MOULDING MACHINE—of Modern Design

(See Description on pages 11 and 14)

A Modern Wood-Working Machine—Continued

the angular adjustment of the heads is necessarily limited on this size machine, that of the outside head gives a range of nearly 30 degrees, and when set at an angle can be moved in or out without disturbing the angle at which placed.

The top head arbor has an *outside bearing* which is easily removed in case it is desired to remove or change the head. This bearing is held on the top by the binding bolt, and is also firmly bolted to the frame of the machine, near the floor, in a very substantial manner.

The Feed.—The *feed* consists of three strongly driven feed rolls; one in the bed, driven by an *expansion gear*; one 4 inches in diameter, directly over the one in the bed, and one 2½ inches in diameter, nearer the top head to help hold material being worked down solid on the bed, as well as to feed. The *bed* will open 1½ inches for jointing, etc., and the feed has the same power in all positions of the bed. The *rolls* are weighted—the lever and weights being below and within the framing quite out of the way, and a *spring* intercepts between the lever and the roll connections so as to minimize any shock when starting pieces of work. A *lever* is provided within easy reach for raising the feed rolls when it is desired to withdraw a piece of stock.

There are *two rates of feed* by cone pulleys, and by changing one pulley two additional rates are provided for. (Two pulleys are furnished with the machine.) Unless otherwise ordered, the pulleys will be of sizes to give 25, 33, 40 and 52 feet per minute. The feed is started or stopped by a *tightener* controlled by a hand lever very convenient to the operator.

Under Head.—The *under head* has adjustment to regulate the amount of cut, and the

end of the bed after the under head has adjustment to fit the cut, as well as being raised or lowered with the head when it is once set to suit the cutters. Therefore it is right for light or heavy cut, without attention, when once set with the cutters in use. This extension of the bed swings to the side for adjustment or sharpening cutters.

Cutter-Heads.—The *cutter-heads* furnished with the machine are all four-slotted, lipped, and made of high carbon steel. There are four heads, one to each arbor, and all of the same cutting diameter, thus allowing an interchange of cutters on the different heads.

The Pulleys.—All *pulleys* on the machine are of generous diameter and width of face, to give good width of belts and not excessive belt speeds. They are turned *carefully* and *balanced* in the *plane* or *rotation*, and hence will run true and in perfect balance at any speed.

General Facts.—All needed *hold-downs*, *pressures*, *guides* and *springs* are provided, and in all places where practical, are controlled by *handwheels* or *stationary wrenches* or *handles*. The *spring posts* are held solidly by our improved cast-steel clamp, which is very much superior to the old method of a set screw against the post, not only holding firmer, but not bruising the post, and easier to repair in case it becomes necessary to renew one of the screws.

Belting Required.—The belting required for this machine is as follows: 54 ft. 6 in. of 2¾-inch width; 14 ft. of 4 in. width, and 6 ft. 6 in. of 2-inch belting.

For further particulars and prices, address,

H. B. SMITH MACHINE CO.,
Smithville, New Jersey, U. S. A.

Data as to Sizes, Weights, Floor Space Etc.

Model.	Code Word.	To Work.	Symbol.	Weight in Pounds.	Floor Space Required.	Size of T. & L. Pulleys.	Speed of C. S.	Average Horse Power.
No. 136-A	Obswearing	4 Sides	M-14	2,350	9 ft. x 4 ft.	12 in. x 6 in.	900 Revs.	6 to 7
No. 136-Aa	Obswunger	3 Sides	M-14	2,150	9 ft. x 4 ft.	12 in. x 6 in.	900 Revs.	5 to 6
No. 136-Ab	Obswages	2 Sides	M-14	1,950	9 ft. x 4 ft.	12 in. x 6 in.	900 Revs.	5
No. 136-Ac	Obswiper	1 Side	M-14	1,750	9 ft. x 4 ft.	12 in. x 6 in.	900 Revs.	4½

The Value of Science to Every Man

By Herbert N. Casson

What kind of knowledge is worth the most?" asks Herbert Spencer in his book on "Education." His answer is given in one word—Science.

No matter what a man's trade or profession is, he cannot do good work without knowing something about science. Even though he be a poet or an artist, ignorance of science will mar his poems or his statues.

For instance, there is a famous statue called "Discobolus," which was made by a sculptor who plainly knew nothing about the laws of momentum. It represents an athlete throwing a quoit, and he is standing in such a way that he would fall on his face the moment that the quoit is thrown.

The eminent painter, J. Lewis, has a painting in which the shadow of a lattice window is cast sharply upon an opposite wall. If he had known the laws of light he would not have made this mistake.

Rosetti has in some paintings a certain bright sheen that would never be seen on real objects in the way in which he paints it. It is very seldom that a scientist, passing through an art gallery, does not find flaws in the paintings that would have been prevented if the artists had known only a little about the laws of light.

Many a business man has invested his money and lost it because he did not know anything of science. For instance, some English business men lost \$100,000 in a scheme for collecting the alcohol that distils from bread in baking. The scheme would not work, of course, but they knew nothing of the law of fermentation, and so invested their money in an impossible project.

Another group of business men ruined themselves sinking a coal mine. Soon after they had started to sink the mine the miners came to a peculiar fossil. If they had understood the science of geology they would have abandoned the mine at once, because the sort of fossil which they found is never located near coal beds. Not knowing this, they continued to dig and to waste their money.

There are some poets and literary people, says Herbert Spencer, who have the foolish

idea that the study of science deadens the imagination and takes all the poetry out of life.

The very opposite of this is true. "Only when Genius is married to Science can the highest results be produced," says he. Science, of course, makes us more critical. We cease to admire every picture and every poem. But we have a higher admiration for the great pictures and poems, and we know why they are great.

A witty lecturer once said that there was a great deal of romance in a mountain spring, very little in a town pump and none at all in a city water-works. This may be the case to an uncultivated mind, but to any thoughtful man or woman the vast mechanism of a city water-works, branching through the city like a system of veins and arteries, appeals much more to the imagination than any little surface rill on a mountain.

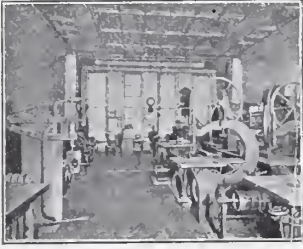
To science every drop of water is a mystery, every grain of sand is a problem, every insect is a marvel. The scientist knows that the drop of water is held together by a force which, if suddenly set free, would produce a flash of lightning.

The scientist knows that if he could understand how one tiny snowflake was made, and why it sprang into the form of a beautiful crystal, he would not be far from solving the problem of life.

If you want to develop your memory, study science, says Herbert Spencer. The facts which it gives you to remember are valuable in themselves, and they are all of such a nature that they compel you to think and to use judgment.

For the purpose of moral discipline, too, there is no subject better than science. The scientist does not follow rules, but facts. He becomes devoted to what is true. Dealing with facts makes him sincere.

In short, there is not a person in any civilized country who has not been benefited by science. "It is because of the progress of science," says Spencer, "that millions find support where once there was food only for thousands, and that wandering tribes have become populous nations, enjoying comforts and pleasures of which their naked ancestors never dreamed."



NEW YORK BRANCH

123 Liberty Street

The Old Man Gets Reminiscent

It was during one of these reminiscent moments that lately occurred that my mind went back to the year 1845.

This was my first year as a salesman, my first undertaking as a merchant, and being but eight years of age I had a good reliable partner, who was my mother. She being the manufacturer, and I the wholesale department. The merchandise sold was a *high quality* of molasses candy. (I never sell cheap goods.)

Amongst the various factories that I visited at the noon hour in pursuit of the elusive order was the sash-door and blind shop of William Combes, who was making work for the Boston market, a regular stock shop.

I should explain at the time mentioned, New Hampshire was growing some white pine timber that would compare very favorably with the Michigan article of a later cutting.

As I was saying, I visited this mill often, and became very familiar with the various methods used in this old-time shop.

In describing these methods we must remember that the date referred to was even before "Smith" machines of any kind had been made, and the tools used were of the most primitive kind. The power machines consisting of circular saws mostly of the wood frame, wood top pattern, all without countershafts. A side jointer for straightening the door stiles which were plowed for panels on a saw bench. The mortising was all done by hand, the workman being paid by the piece; this was called "driving the mortise," which was done with a chisel, and a heavy mallet. But this shop did have a tenoning machine. How long this had been made previous to the time I refer to I have no means of knowing, but in shape, and general form of construction it resembled closely the tenoning machine made by H. B. Smith a few years later, except that the work was done entirely with saws. In place of the heads with spurs there was simply cut-off saws adjustable, up and down, and in and out, and in place of the copes heads were rip saws, so that instead of shavings the relief pieces were blocks. Sash rails, bars, etc., were made in the same way copied by hand.

This tenoner stands out as clearly in my mind as though I saw it yesterday, and I have wondered if this machine was the initial of the wonderful tenoners now made by the H. B. Smith Machine Co., and did H. B. Smith use this particular machine as his model.

I had a great love for this shop, and often visited it of a Saturday afternoon without my candy box, on plea of getting shavings for kindling, and remember well of one day seeing a man whom I was told was Mr. Fay, from Worcester, who was setting up a foot mortiser, an elaborate affair, made principally of wood, some 4 feet square, and painted a brilliant red. (Some of our older readers will remember this machine.)

I think this time referred to was the first talk of strike I ever heard, as the workmen who were driving mortises were complaining bitterly that this machine would deprive them of their means of living, and threats were long and loud against the machine and its inventor.

Mr. Fay had claimed this machine would mortise sixty doors per day, or perform three men's work of the drivers. Marvellous?

I do not think, however, this machine was the pattern that led to the mortiser of H. B. Smith, as it had very little except the peculiar shape of the chisel to recommend it, nor did Mr. Fay improve on his first mortiser, but after years of trying to dodge the patents of Smith copied it entire when there was no danger of litigation, as did others who came after him. As, in retrospect, I wander over the past of machines, and machine builders, I think how little credit has been given the elder Mr. Smith, or the H. B. Smith Machine Co., for the grand inventions they have brought out, and their pride in refusing to copy others, when it is a fact well known, that competitors have no hesitancy in reproducing their best points, and offering them to the public without an apology.

I wonder if we are now at the height of perfection, or will the next fifty years produce the changes of the last fifty, as to wood working machinery. Well, I may never know.

W. D. M.



Chicago Store News

Our Chicago store is located at 65 South Canal street (near Madison) 1 block north of Union Depot.

When you visit our Chicago store we would suggest that you would

inquire for our manager, Thos. R. Martin. Our Mr. Martin has been well-known on Canal street for twenty years, and is regarded as one of the ablest wood working machinery experts in the West. He would be pleased to extend our best courtesies.

Our Chicago store has at present one of the most complete stocks of "Standard" wood working machinery in this country. Our show rooms are as elaborate and interesting as are often found even in the best exhibitions of the world. Nearly all of our important machines are set up complete, particularly for show purposes, with every feature easily accessible for examination and explanation.

I am often confronted with surprising conditions in my efforts to effect a sale of machinery; however, it is perhaps unnecessary for me to say that a salesman is not frequently criticised by a customer for asking a low price. I had an experience a few days ago of an unusual character which, perhaps, may be interesting and may appeal to your own experience. My critic, being an experienced sash and door manufacturer, explained that possibly I did not understand him, but being a sympathetic observer of things, he had every reason to believe that the manufacturers of wood working machinery, particularly those who manufacture a general line of standard tools, had made very

little money in the past twenty-five years. He further stated that he knew that this class of wood working machinery had commanded a less price than any other machinery of equal weight and complexity. He then elaborately dissected the subject of advanced prices in general merchandise, raw material, wages, etc., and stated that for the past four years almost every known commodity used in the wood working factory had advanced from 10 to 200 per cent. with the possible exception of wood working machinery and mahogany lumber. The reasonable explanation of the stability of price in the mahogany was that the cost of lumbering in the mahogany forest had been greatly reduced by the use of new methods and modern machinery, while on the other hand, the cost of construction of ordinary or "Standard" wood working machinery has constantly increased, not only on account of the advance in price of raw material, wages, etc., but the demand for heavier machines, suitable for working hard woods, together with the addition of many new and practical features have steadily increased the cost of construction to such an extent that it becomes really astonishing that wood working machinery manufacturers continue to offer their product at practically the same price that they have for the past fifteen years. This condition, he argues, cannot exist much longer, and he predicts a great change in the near future in the price of wood working machinery. He says (perhaps sarcastically): "This change will require better salesmen, who are able to talk quality and argue convincingly the necessity of better prices," and adds, "I, for one, will be glad to see you machinery people prosper, as we make our money with you. Your prosperity means encouragement of genius; ingenuity in the mechanical line means saving of labor to the manufacturer and a boon to humanity."

The facts in this logical deduction of present conditions are not new to us, and we heartily agree to the probabilities of our friend's predictions, but just how we are to get the "price cutter" to grasp the force of this argument is the perplexing problem.

T. R. M.

JOSHUA OLDHAM & SONS
NEW YORK
SAW WORKS

The "Oldham" Saws for Woodworkers

Over thirty years since, by their intrinsic merits, attained a position for goodness, then, as now, incontrovertible; in the intervening years they have maintained the precedence for endurance, and the increase of the product in the mills where they have been used

Over Seas by Steam and Sail.

Over Land by Road and Rail.

OFFICE
130 TWENTYSIXTH ST.
BROOKLYN BOROUGH
NEW YORK

List of Second Hand Machines on Hand and Ready for Immediate Delivery

- One 24" Pony Planer, single and in good condition, - - - - \$200 00
 One 24" x 8" Surface Planer, single, old style, divided roll, fair condition, 250 00

The above Surfacers are of the old style light pattern, but will give good service where the work is not too heavy.

- One Double Spindle Shaper, good condition, - - - - 125 00
 One 26" Gang Edger, right hand, good condition and C. S., - - - - 150 00
 One Rowley & Hermance 6" Moulder, fur side, - - - - 75 00
 One 24" Double 6 Roll Planer, fair condition - - - - 71 50
 One Heavy Post Drill, geared for drilling iron, - - - - 60 00
 One New Suspension Drill for drilling iron, - - - - 75 00
 One No. 6 24" x 4" Planer and Matcher, single, old style and fair condition, \$250 00
 One No. 2 Tenoner, old style with double heads and double copes; fair condition, - - - - 100 00
 One Double Disk Sander, Williamsport make, good condition, - - - - 45 00
 One 3-side 5" Moulder, old style, not very good, - - - - 30 00
 One No. 3 Old Style Mortiser, plain table, fair condition, - - - - 60 00
 One No. 2 Gauge Lathe, good condition, 75 00

For further particulars, address

H. B. SMITH MACHINE COMPANY

- One 24" x 8" Surface Planer, double, old style, divided roll, fair condition, \$275 00

- One No. 1 " " " " 150 00
 One 10" Foot Lathe, 3 feet between centres, in good condition, - - \$25 00
 One Enameling Oven, 5½' wide x 4' 1½' high, and 2' 3" deep, cost when new \$35.00 and is now nearly as good as new, - - 16 00
 One Dado Machine, special. Has wood frame, heavy mandrel extending full length of machine under which is a sliding table 20" wide, mandrel is fitted with three ¾" grooving heads and two cut-off saws, extreme distance of saws apart is 4' 3½". The boxes are adjustable, vertically, and machine is in good working order, price - 100 00
 One Jig Saw, good condition, price - - 40 00
 One Horizontal Disc Sander, good as new, price, - - - - 160 00
 One J. A. Fay & Co. Tenoner, double head and double cope, good condition, price 150 00
 One Double Vertical Spindle Edger, special. Will work stuff 40" to 58" long and 24" wide, has telescoping table mounted on rollers, one end of which is adjustable with the movable spindle, price - 125 00
 One C. B. Rogers 6" four-side Moulder, has slotted heads, fair condition, price 100 00

Smithville, N. J.

Bargains in Second Hand Machinery

- One Fay 26" double chain bed Surface Planer with straight rolls, complete, price - - - - \$225 00
 One Fay Panel Raiser, complete - 55 00

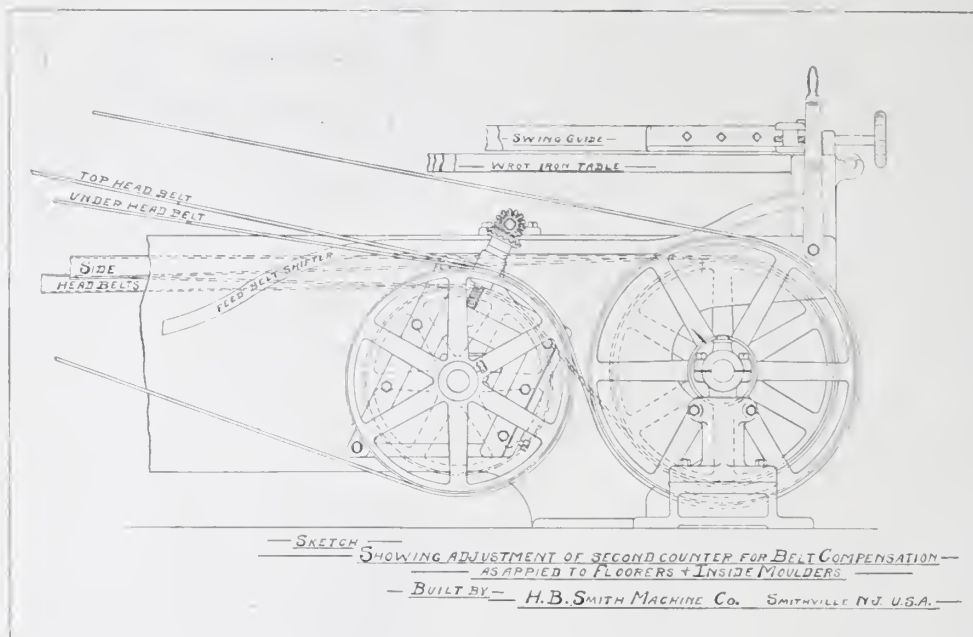
- One No. 2 Smith Single End Tenoner, complete, with double heads and double copes, price - - - \$135 00
 One 24" Buss Hand Jointer and countershaft, complete, price - - - 85 00

The above prices are for machines delivered f. o. b. cars, Chicago, Ill. Call or address

H. B. SMITH MACHINE COMPANY,

November 1, 1903.

65 S. Canal Street, Chicago, Ill.



The above sketch represents a new *Belt Compensating Device* as applied to our Flooring Machines and Inside Moulders, and which may be described as follows :

Nearly all Planing and Matching Machines, Floorers and Inside Moulders have the under cutter-head driven by a *second countershaft* to which the pulleys on lower head are belted, and the driving power is obtained by contact with the belt which drives the upper head. In some instances these pulleys have been made adjustable so as to tighten or loosen the lower or upper head belts, but in the better class of machines the second countershaft is made to carry the matcher belts over a drum so as to give a more direct and stronger drive, and it also being better for the belts. The device above is so arranged that *all* of the belts may be tightened or slackened almost instantly and at *one time* by simply turning a crank which adjusts both ends of the countershaft. Hence, when all of the belts are of proper length as usual, they may be all made tighter for heavy and severe service, or relieved from unnecessary strain for ordinary or light work.

The *Bearings* of the second countershaft are mounted in ways of such inclination that when adjusted upwardly it slightly increases the tension of the under cutter-head belts, and to a greater degree this same adjustment increases the tautness of the upper cutter-head belts and the matcher spindle belts, because of the greater pressure of the pulleys and drum on these belts. Thus the cutter-heads which are required to do the hard work receive the greater belt tension, and are sure not to slow down from slippage of belts. When the machine is wanted for the lighter class of work, a reverse adjustment of the bearings by the same crank lessens the tension on all of the belts, thus preventing unnecessary wear and tear on the belts and bearings of the machine.

The construction of this Belt Compensating Device is of utmost simplicity; it is durable, cannot get out of order and will stay in the position to which adjusted. Patents are pending.

Further information as to its application to our Floorers and Inside Moulders, will be furnished on application.

Respectfully,

H. B. SMITH MACHINE COMPANY,

Smithville, N. J., U. S. A.



FREE WANT ADVERTISEMENTS

We will insert advertisements not exceeding twenty words for one month free. Repetitions and words in excess of twenty, ten cents per line (ten words to a line).

Advertisers may have their mail addressed to this office and it will be promptly forwarded to them.

SITUATIONS WANTED

SITUATION WANTED.—A man who understands the care and operation of wood-working machinery is open for engagement. Address
Boston, care of THE MECHANIC.

WANTED.—Foreman for small factory working about twenty men on sash, doors and interior finish. Town of about three thousand in Central New York, must be competent to take entire charge and had previous experience in similar position.

Address

G. A. Clark, Sidney, N. Y.

ASSISTANT SUPERINTENDENT WANTED.—In novelty wood-working manufactory. Want active party with knowledge of wood-working machinery and capable of handling workmen. State age, experience and salary expected. Good opening for the right man.

Address,

Jas. H. Hawes Mfg. Co., Tonawanda, Pa.

POSITION WANTED AS FOREMAN in machine or cabinet room, or superintendent of small woodworking plant. Years of experience in planing mill and furniture manufacturing; sober, reliable; can give good references.

Address W. H. GALL, Granite Falls, N. C.

MEN WANTED

MAN for our Tool Room to make Cutters, Wood Moulding Machines.

Apply to E. Bailey & Sons, Patchogue, N. Y.

FIRST CLASS ALL AROUND MAN, capable of doing first class work on any ordinary machine.

Address Homer Table Works, Homer, N. Y.

WANTED.—A full set of first-class shop hands. Must be sober. A steady job for the right men. State capability and wages expected.

Address Paul Wheeler, Durham, N. C.

WANTED AND FOR SALE

FOR SALE.—Complete planing mill plant, fully equipped for moulding work, now in operation, and located in one of the largest cities in the East. Will lease or sell, and present owners will contract to take the total output, if desired.

Address Bend, care of MECHANIC.

WATERPOWER FOR SALE.—100 horsepower, undeveloped, either with or without land, 117 acres, as desired. This waterpower is one of the finest in eastern Pennsylvania. 35 miles from Philadelphia on branch of Pennsylvania Railroad.

Address Lock Box 5, Smithville, N. J.

FOR SALE.—Ten inch and six inch Four Side Stickers with knives for making electrical moulding. Power Feed and Hand Feed Rip Saws, Swing Cut-off Saw, Emery Grinder, etc. Price low to quick buyer. Will take moulding in part payment if desired.

Address K. & B., care of THE MECHANIC.

FOR SALE.—1 Steam Saw Mill, 50 inch Inserted Tooth Saw, 1 S. A. Wood 10 inch Moulder, 1 Swing Cut-off Saw (Iron), 1 Small Emery Grinder, 1 Boring Machine, 1 Saw Arbor, Several Pulleys 12 to 36 inches, Lot of Leather and Rubber Belting.

E. G. Adams, Kingston, N. Y.

We have a

30-INCH TRIPLE DRUM ROYAL INVINCIBLE SANDER

which is in first-class condition.

We also have a

GANG DADO MACHINE

with five heads and trim saw, for gaining case work in furniture, etc. This machine was built by the Williamsport Machine Co., and is practically new.

We also have a

CLEMENTS DOUBLE END TABLE TOP MOULDING MACHINE

This machine is used for cutting off and moulding both ends of table tops, filling boards, etc., at one handling.

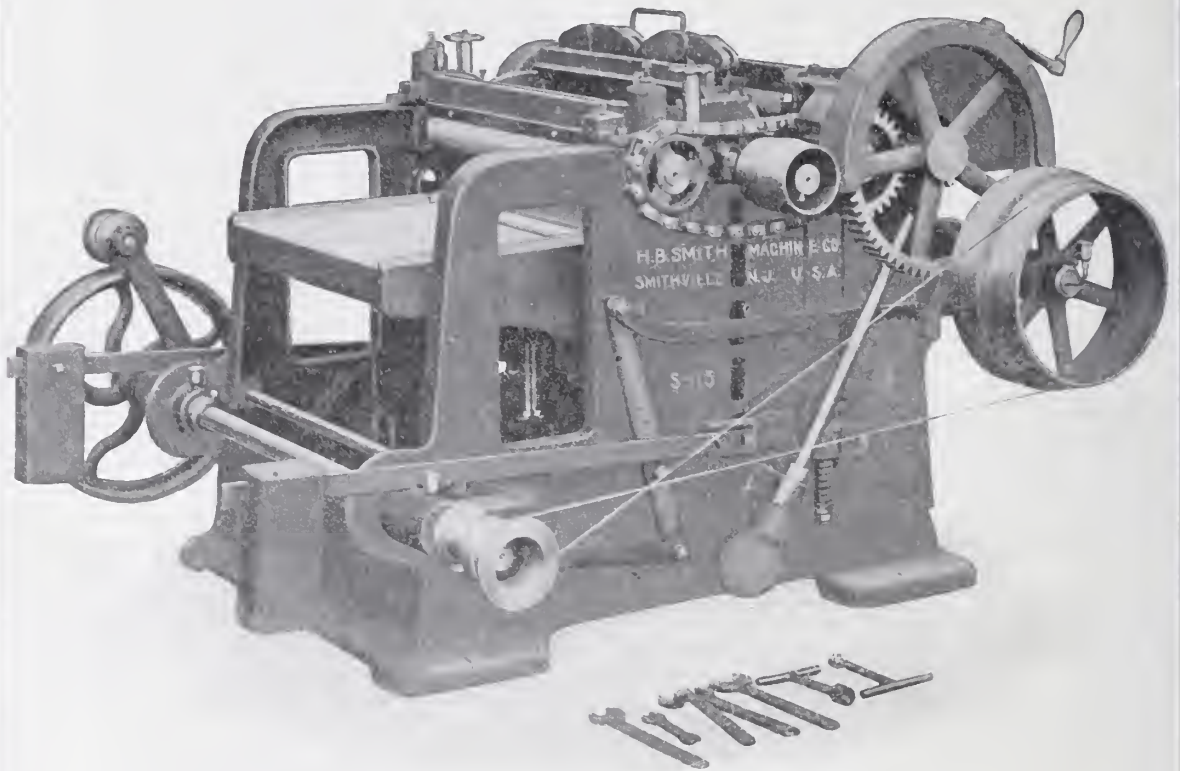
For full particulars, prices, etc., of the above machines, address

H. B. Smith Machine Co.
SMITHVILLE, N. J.

A Very Popular Machine

24 in. x 8 in. Single Surfacers

Divided, Solid or Sectional Roll



Outfeeding end view, showing divided Chip Breaker and Belt Binder

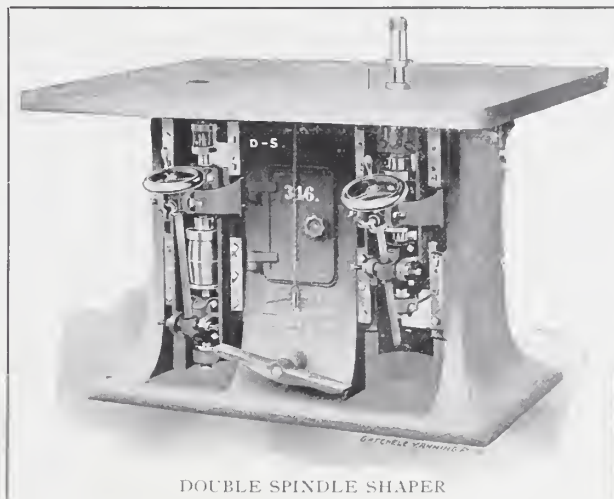
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IRREGULAR SHAPING MACHINES

With One and Two Spindles



DOUBLE SPINDLE SHAPER

*The
"Best"*

*Is
"Cheapest"*

For Further Particulars Address

H. B. Smith Machine Company

SMITHVILLE, N. J.

U. S. A.

HAND PLANERS OR JOINTERS

With or without Power-Feeding Attachment



Full Particulars upon Application to the Manufacturers.

H. B. SMITH MACHINE CO.,

Smithville, N. J.



SHOWING STYLE ATTACHED TO WALL

IMPROVED SWING SAWS



*Made in Seven
Sizes for the Wall
or Ceiling and of
Various Lengths.
Frames are Hol-
low, Mounted on
Trunnions and*

COUNTER-BALANCED

*so as to Operate
Easily.*



Data as to Size Weight, Power, etc.

Model	Code Word	Size of Saws	Weight in Pounds	Size of T. and L. Pulleys on C. S.	Speed of C. S.	Average Horse Power
No. 384-A	Opendulum	16 inches	350 to 475	10 in. x 6 in.	700 Revs.	1½ to 2
No. 384-Aa	Opendulag	20 inches	350 to 500	10 in. x 6 in.	600 Revs.	1½ to 2
No. 384-Ab	Opendules	24 inches	375 to 525	10 in. x 6 in.	500 Revs.	1½ to 2
No. 380-B	Opend	30 inches	1100	12 in. x 8 in.	520 Revs.	3 to 4
No. 380-Ba	Opendul	32 inches	1100	12 in. x 8 in.	490 Revs.	3 to 5
No. 380-Bb	Opendas	34 inches	1150	12 in. x 8 in.	440 Revs.	4 to 5
No. 380-Bc	Opendum	36 inches	1150	12 in. x 8 in.	432 Revs.	4 to 6

For Further Particulars and Prices, Address

H. B. Smith Machine Co.

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